

2005

# Water Quality Report



The United States Environmental Protection Agency (EPA), the Arizona Department of Environmental Quality (ADEQ), and the Maricopa County Environmental Services Department requires public water systems to fund, prepare and distribute an annual report about the quality of the water. The Water Quality Report provides valuable information about where your drinking water comes from, how it is treated, and summarizes the most recent analytical tests completed.

## Your Drinking Water

In 2004, your drinking water met or surpassed all federal and state drinking water standards. Scottsdale water is extensively tested for over 100 substances the Environmental Protection Agency (EPA) has determined may be unhealthy to humans if consumed over extended periods of time above the health standards. Health standards are set to detect and/or eliminate unwanted substances long before they pose a health threat.

The City of Scottsdale is pleased to provide our customers with this Annual Water Quality Report. Except where indicated, this report is based on the results of monitoring for the period of January 1, 2004 to December 31, 2004.

To ensure your tap water is safe to drink, the EPA issues regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for substances in commercial bottled water.

Sources of drinking water include rivers, lakes, reservoirs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive materials, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline, 800-426-4791.

*In 2004,  
your drinking  
water met or  
surpassed all  
federal and state  
drinking water  
standards.*

## Where Your Water Comes From

Your water comes from both surface water and groundwater sources. Throughout the year you may receive water from any one of these sources, or a combination of water sources. Consumer demand, weather and the time of year are all factors that can influence where your water supply originates.

The City's main surface water supply is from the Colorado River. This water is transported through the Central Arizona Project (CAP) aqueduct to the Scottsdale CAP Water Treatment Plant where it is treated to drinking water standards before being served to customers.

Scottsdale also receives surface water from the Salt River Project (SRP), which originates from the Verde and Salt Rivers. Under contract with the City of Phoenix, Scottsdale's SRP supply is treated to drinking water standards and is delivered to Scottsdale where it is served to customers.

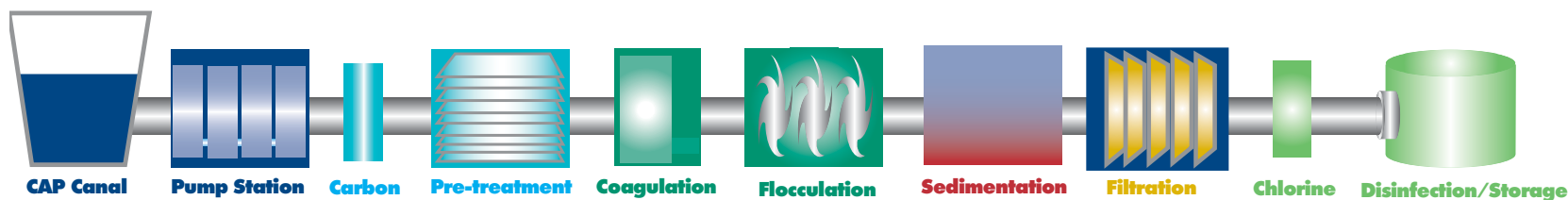
Besides these surface water sources, Scottsdale water comes from a groundwater aquifer stored deep below ground. The water is pumped from the ground through one of the City's thirty-four wells and disinfected prior to entering the distribution system, before being served to customers.



Your water comes from both surface water and groundwater sources. Throughout the year, you may receive water from any one of these sources, or a combination of water sources.

## Attention Immuno-Compromised Citizens

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy; persons who have undergone organ transplants; people with HIV/AIDS or other immune system disorders; and some elderly people and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency / Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



CITY OF SCOTTSDALE CENTRAL ARIZONA PROJECT (CAP) WATER TREATMENT PLANT

### Treating the Water to Drinking Water Quality

#### *CAP Water Treatment Plant*

Water from the Colorado River is treated to drinking water standards at the City's CAP Water Treatment Plant and then delivered to Scottsdale citizens.

#### *Pre-treatment*

In large basins, the water is treated with activated carbon to control unpleasant tastes and odors.

#### *Coagulation/Flocculation*

Large mixers called flocculators and an additive called "alum" are used to draw small particles together to form larger heavier particles.

#### *Sedimentation*

The water is moved to large rectangular basins where the large particles settle to the bottom of the basins where they are removed.

#### *Filtration*

Very small particles that remain in the water are removed by a filtering process.

#### *Disinfection*

The final step is disinfection with chlorine. Water carrying a slight chlorine residual is distributed to water customers. A chlorine residual is required by regulation to ensure adequate destruction of harmful microbes before the water is distributed to customers.

### Central Groundwater Treatment Facility (CGTF)

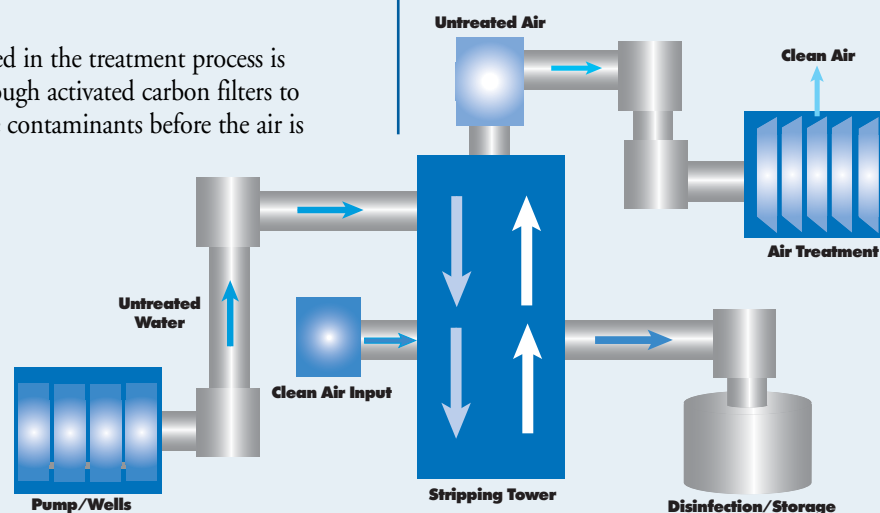
The North Indian Bend Wash (NIBW) Central Groundwater Treatment Facility (CGTF) treats water pumped from four groundwater wells that contain trichloroethylene (TCE), an industrial chemical. The CGTF facility located at Pima and Thomas Roads was built by private companies deemed potentially responsible for contaminating the groundwater with TCE. The private companies are responsible for the cost of operating and maintaining the facility. The facility pumps groundwater from an area designated by EPA as the NIBW Superfund site. The groundwater is treated to federal and state drinking water standards, with regulatory oversight by EPA, Arizona Department of Environmental Quality, and Maricopa County.

For more information on the NIBW Superfund site, please call EPA's message line, 800-231-3075. For more information on the NIBW Central Groundwater Treatment Facility, please contact the City of Scottsdale at 480-312-8732 or visit our water quality Web site at [www.ScottsdaleAZ.gov/water/quality](http://www.ScottsdaleAZ.gov/water/quality).

### How does the NIBW Central Groundwater Treatment Facility work?

- Water pumped from the four wells flows down through three treatment columns.
- The treatment facility uses a process that "strips" the water of contaminants by mixing the water with air. As the water and air mix, the contaminants attach themselves to the air.
- The air used in the treatment process is passed through activated carbon filters to remove the contaminants before the air is released.

- The treated water is then moved to a reservoir for disinfection before it is delivered to the City of Scottsdale drinking water system. The water in the reservoir is combined with other treated water source(s) to meet customer demand.



CENTRAL GROUNDWATER TREATMENT FACILITY (CGTF)



Public Notification

The City of Scottsdale is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Upon introduction of a new well located in the Scottsdale Airpark, monitoring was not completed one out of four required quarters for Radiochemicals\*. While we cannot verify the levels of Radiochemicals\* at the well during that time, testing conducted prior to and after the missed monitoring event confirmed compliance with the federal drinking water standards. The appropriate regulatory agencies for drinking water were informed of the missed monitoring event. As required, the City has monitored and continues to monitor this well.

*\*Radiochemicals are a naturally occurring substance found in the soil.*

Important Definitions

Contaminant

Any physical, chemical, biological, or radiological substance or matter in the water.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL)

The highest level of a contaminant allowed in drinking water. MCLs are set by the EPA as close to MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is required for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL)

The concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.

Part per million (ppm) / Part per billion (ppb)

These units describe the levels of detected substances. One part per million can be described as one minute in two years. One part per billion is one second in thirty-two years.

Picocuries per liter(pCi/L)

A measure of the radioactivity of a substance.

Health Based Guidance Level (HBGL)

Developed by Arizona Department of Health Services (ADHS), they represent levels that are unlikely to result in adverse health effects with long-term exposure to humans.

GPM

Gallon per minute

Contaminants that may be present in source water include:

- **Microbial contaminants** including viruses, bacteria or parasites (such as Cryptosporidium or Giardia), which may come from agricultural or livestock operations and wildlife.
- **Inorganic contaminants** such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

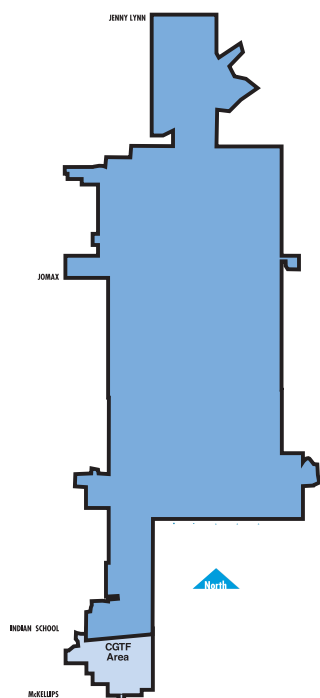
- **Pesticides and herbicides** may come from a variety of sources such as agriculture, storm water runoff and residential uses.
- **Organic chemical contaminants** including synthetic and volatile organic compounds, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- **Radiochemical contaminants** which occur naturally or result from oil and gas production and mining activities.



Scottsdale water is tested for over 100 substances, however, only the substances that are detected are listed in this report.

## 2004 Detected Results

The results of Scottsdale's water quality analysis are contained in the following tables. The water service areas are divided into two different zones; CGTF Area and CAP Area. Use the map to determine which area you receive your water from and refer to the tables for your water quality results. Scottsdale water is tested for over 100 substances; however, only the substances that are detected in the water are listed in this report. A complete list of all substances that the City monitors is available upon request.



CAP Area supplied by CAP Water Treatment Plant and supplemented by groundwater wells

CGTF Area supplied by treated groundwater from CGTF & supplemented SRP water treated by the City of Phoenix

## TABLES KEY -

These abbreviations are used and referenced in all the following tables.

ND = non-detectable (the substance was analyzed but not detected)

NA = non-applicable

## 2004 INORGANICS

SUBSTANCE	UNIT	MCL	MCLG	CAP AREA RANGE	CGTF AREA RANGE	LIKELY SOURCE IN DRINKING WATER
Arsenic*	ppb	50	NA	ND - 29	ND - 7	Erosion of natural deposits
Barium	ppb	2000	2000	ND - 308	29 - 41	Erosion of natural deposits
Chromium	ppb	100	100	ND - 71	ND	Erosion of natural deposits
Fluoride	ppm	4	4	0.4 - 1.7	0.4 - 0.5	Erosion of natural deposits
Nitrate (as N)**	ppm	10	10	ND - 6	ND - 5	Runoff from fertilizer use Leaching from septic tanks

\* Arsenic is a naturally occurring mineral commonly found in water due to erosion from rocks and soil. Some people who drink water containing arsenic in excess of the arsenic standard or Maximum Contaminant Level over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

\*\* Nitrate is an inorganic substance that is monitored due to runoff from fertilizer use. Nitrate in drinking water at levels greater than 10 ppm is a health risk for infants of less than six months of age. In 2004, the highest nitrate level detected in Scottsdale water was 6 ppm. High nitrate levels above 10 ppm in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time due to rainfall or agricultural activity. If you are caring for an infant you should seek advice from your health care provider.

## 2004 ORGANICS

SUBSTANCE	UNIT	MCL	MCLG	CAP AREA AVERAGE RANGE	CGTF AREA AVERAGE RANGE	LIKELY SOURCE IN DRINKING WATER
Bromodichloromethane	ppb	NA	NA	1.4 ND - 15.3	5.7 ND - 14.8	Byproduct of drinking water chlorination
Bromoform	ppb	NA	NA	1.3 ND - 10.6	2.8 0.80 - 7.24	Byproduct of drinking water chlorination
Chloroform	ppb	NA	NA	1.1 ND - 11.2	4.6 0.97 - 11.2	Byproduct of drinking water chlorination
Dibromochloromethane	ppb	NA	NA	1.7 ND - 19.6	6.1 1 - 15.8	Byproduct of drinking water chlorination

## 2004 RADIOCHEMICALS

SUBSTANCE	UNIT	MCL	MCLG	CAP AREA AVERAGE RANGE	CGTF AREA+ AVERAGE RANGE	LIKELY SOURCE IN DRINKING WATER
Gross Alpha	pCi/L	15	0	1 ND - 2.5	1.6 ND - 4.9	Erosion of natural deposits
Radium 226	pCi/L	5	0	ND ND	2.4 ND - 0.7	Erosion of natural deposits
Radium 228	pCi/L	5	0	ND ND	1.0 ND - 1.0	Erosion of natural deposits
Uranium	pCi/L	30	0	4.1 ND - 7.8	4.0 ND - 7.2	Erosion of natural deposits

+ The data is from the most recent testing done in accordance with the regulations; however, the CGTF results are from 2002.



2004 Detected Secondary Standards

Secondary inorganic substances do not have an MCL and are measured voluntarily because these substances primarily relate to the taste, odor, or appearance of drinking water. These inorganic substances are found naturally in the soil.

2004 Turbidity Results after Treatment at the CAP Water Treatment Plant

Turbidity is a measure of clarity in the water and is reported as Nephelometric Turbidity Units (NTU). It is caused by suspended matter such as organic and inorganic matter, silt, algae or tiny microorganisms. Turbidity is a good indicator of the effectiveness of the water treatment process. A treatment technique standard applies instead of an MCL. In accordance with the Interim Enhanced Surface Water Treatment Rule (IESWTR) the City has collected continuous turbidity samples from individual filters at the water treatment plant. All samples collected were in compliance with the regulation.



2004 SECONDARY INORGANICS

SUBSTANCE	UNIT	MCL	MCLG	CAP AREA RANGE	CGTF AREA RANGE
Alkalinity	ppm	NA	NA	110 - 244	162 - 182
Calcium	ppm	NA	NA	9.5 – 73	43 – 54
Chloride	ppm	NA	NA	21 - 186	50 - 259
Hardness, Total	ppm	NA	NA	47.3 - 274	226 - 360
	grains/gallon			2.7 – 16.0	13.2 – 21.0
Iron	ppm	NA	NA	ND – 2.02	ND – 1.52
Magnesium	ppm	NA	NA	5.7 – 33.3	ND – 54.7
pH	Std. Unit	NA	NA	7.2 – 8.64	7.4 – 8.6
Sodium	ppm	NA	NA	22 - 167	63 - 130
Sulfate	ppm	NA	NA	ND - 229	94 – 111
Temperature	oC	NA	NA	10.0 – 36.1	13.6 – 33.3
	oF	NA	NA	50.0 – 97.0	56.5 – 91.9
Total Dissolved Solids	ppm	NA	NA	245 - 535	772
Zinc	ppm	NA	NA	ND - 0.076	ND – 0.094

TURBIDITY RESULTS

SUBSTANCE	TREATMENT TECHNIQUE TECHNIQUE	MCLG	HIGHEST MEASUREMENT	LOWEST MONTHLY PERCENTAGE	LIKELY SOURCE IN DRINKING WATER
Turbidity	No turbidity measurement can be above 1 NTU at any time. At least 95% of turbidity measurements of any month must be less than or equal to 0.3 NTU.	NA	0.09	100 % of monthly samples met treatment technique requirements	Soil runoff



### 2004 Results of Samples Collected in the Distribution System

Microbial, Disinfection Residual and Disinfection Byproduct samples are collected throughout the City at 147 dedicated sampling stations. These distribution system samples are representative of water delivered to homes and businesses.

Drinking water is treated with chlorine to ensure adequate microbial disinfection. Every month throughout the City over 150 samples are collected to ensure adequate disinfection and verify the absence of microbes within the distribution system pipes. Scottsdale's goal is to have a chlorine residual between 0.8 ppm and 1.2 ppm in all monthly samples. When chlorine residuals are outside the preferred range, the City makes necessary adjustments to return the residual to the preferred range.

Disinfectant Byproducts (Total Trihalomethanes and Haloacetic Acids) are formed as a result of a chemical reaction between chlorine and naturally occurring organic matter in the water. The disinfection process is carefully controlled so that disinfection is effective, while minimizing levels of disinfection byproducts. To control those disinfectant byproducts, Total Organic Carbon (TOC) is measured in the surface water before and after treatment. TOC is reduced during the water treatment process at the plant, therefore, reducing formation of disinfectant byproducts in the distribution system.

### 2004 MICROBIAL MONITORING

SUBSTANCE	MCL	MCLG	ENTIRE DISTRIBUTION SYSTEM	LIKELY SOURCE IN DRINKING WATER
Total Coliform	Presence in no more than 5% of monthly samples	0	Highest monthly percentage of positive Total Coliform samples: 0%	Naturally present in the environment

### 2004 DISINFECTANT AND DISINFECTANT BYPRODUCT MONITORING

SUBSTANCE	UNITS	MCL*	MCLG	LOWEST LEVEL	HIGHEST LEVEL	ANNUAL RUNNING AVERAGE	MAJOR SOURCE IN DRINKING WATER
Chlorine	ppm	MRDL=4.0	MRDL=4.0	0.13	2.06	1.15	Water additive used to control microbes
Total Organic Carbon	NA	TT	NA	1.9	2.9	2.5	Naturally present in the environment
Total Trihalomethane (TTHM)	ppb	80	NA	ND	108	55	Byproduct of drinking water disinfection
Haloacetic Acids (HAA)	ppb	60	NA	ND	41	13	Byproduct of drinking water disinfection

*\*The MCL is based on a system wide annual running average. Based on the annual running average, the City was below the MCL.*



Secondary inorganic substances do not have an MCL and are measured voluntarily because these substances primarily relate to the taste, odor, or appearance of drinking water. These inorganic substances are found naturally in the soil.

Results of Lead and Copper Monitoring in Residential Households

Lead and copper are used to make household plumbing fixtures and pipes. Lead and copper may leach from faucets or plumbing components into water when the water stands in pipes for several hours. Leaching may also occur in copper pipes joined with lead-based solder. Because the water in your pipes can pick up these metals, installation of lead solder, pipes and fittings was banned in 1986. The 2002 lead and copper levels reported are from water faucets inside 52 Scottsdale homes that were built before the lead ban.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Lead levels at your home may be higher than other homes as a result of materials used in your home’s plumbing. If you are concerned about elevated lead levels you may want to have your water tested. If you have elevated levels of lead in your home, run your faucet when the water has not been used for more than six hours and use only cold water for consumption. Additional information is available from the Safe Drinking Water Hotline, 800-426-4791.

Results of Unregulated Contaminant Monitoring

During 2002, the City was required to monitor for 12 chemical contaminants under the Unregulated Contaminant Monitoring Rule (UCMR). The data generated by the UCMR will be used to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List. This is a list of contaminants the EPA is considering for possible new drinking water standards.

RESULTS OF LEAD AND COPPER MONITORING IN RESIDENTIAL HOUSEHOLDS					
Substance	Units	Action Level (AL)	MCLG	Amount Detected	Likely Sources in Drinking Water
Lead	ppb	90% of homes tested must have lead levels less than 15 ppb	0	90% of the homes tested had lead levels less than 2 ppb	Corrosion of household plumbing
Lead - from City water sources	ppb	NA	NA	26.0	Erosion of natural deposits
Copper	ppm	90% of homes tested must have copper levels less than 1.3	1.3	90% of homes tested had copper levels less than 0.23 ppm	
Copper - from City water sources	ppm	NA	NA	ND-0.053	Erosion of natural deposits

RESULTS OF UNREGULATED CONTAMINANT MONITORING					
Substance	Unit	MCL	MCLG	CAP Area	CGTF Area
Perchlorate	ppb	NA	NA	ND-6.9	ND
2,4-dinitrotoluene	ppb	NA	NA	ND	ND
2,6-dinitrotoluene	ppb	NA	NA	ND	ND
Acetochlor	ppb	NA	NA	ND	ND
DCPA mono-acid degradate	ppb	NA	NA	ND	ND
DCPA di-acid degradate	ppb	NA	NA	ND	ND
4,4'- DDE	ppb	NA	NA	ND	ND
EPTC	ppb	NA	NA	ND	ND
Molinate	ppb	NA	NA	ND	ND
MTBE	ppb	NA	NA	ND	ND
Nitrobenzene	ppb	NA	NA	ND	ND
Terbacil	ppb	NA	NA	ND	ND





### Perchlorate

Perchlorate is a man-made inorganic salt, which is used as a component of solid rocket fuel munitions and in the pyrotechnics fireworks industry. To date, EPA has not set any health limit. Arizona has a health based guidance level (HBGL) of 14 ppb. The EPA is not currently requiring perchlorate monitoring in drinking water. However, Scottsdale has been monitoring for perchlorate in the CAP surface water supply because of detections in Lake Mead, which flows to the Colorado River.

During voluntary monitoring conducted in 2004 sample results for the Scottsdale CAP water supply ranged from non-detectable to 5.7 ppb.

EPA risk studies will determine if there may be an impact to the environment or human health from low concentration perchlorate levels in water. Additional information about perchlorate can be obtained from the EPA Safe Drinking Water Hotline, 800-426-4791.

### MTBE (methyl-*t*-butyl ether)

MTBE is a member of a group of volatile organic chemicals commonly known as fuel oxygenates. Oxygenates are added to fuel to increase its oxygen content. MTBE is used in gasoline throughout the United States to reduce carbon monoxide and ozone levels caused by auto emissions.

The EPA is not currently requiring MTBE monitoring in drinking water. In the interim EPA has recommended that MTBE concentration not exceed 20-40 ppb. During the UCMR monitoring conducted in 2002, Scottsdale tested MTBE at all drinking water sources. There has been no detectable MTBE in drinking water served to Scottsdale customers. Additional information about MTBE can be obtained from the EPA Safe Drinking Water Hotline, 800-426-4791.



### Source Water Protection Program (SWAP)

During 2004, the City of Scottsdale worked with the Arizona Department of Environmental Quality to review and finalize a source water assessment for the groundwater wells and surface water sources used by the City. The assessment reviewed the adjacent land uses that may pose a potential risk to the sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agriculture fields, and waste water treatment plants. Once the adjacent land uses were identified, they were ranked as to their potential to affect the water source. The result of the assessment was that the risk to the various sources depended both on nearby activities and the physical structure of the source itself.

The City's groundwater wells have low to medium risk, with the exception of the wells linked to the Central Groundwater Treatment facility. Those wells were identified as having a high risk of contamination, but the water produced by the wells is treated to drinking water standards and monitored closely by the City, ADEQ, and the EPA. All surface water sources, which include Lake Pleasant and the Verde River watershed, are considered high risk due to their exposure to the open air. The overall risk posed to surface waters are addressed by the EPA through its increased monitoring requirements for surface water sources. The CAP canal was identified as having low risk for all activities surrounding the canal, with the exception of storm water runoff, which was identified as high risk. The assessment noted that storm water runoff was being addressed as part of the canal structure upgrade.

The City continually protects our sources by carefully siting future wells, monitoring water quality of all sources, providing security, and continuing public education. Residents can help protect sources by practicing good septic system maintenance (if you are on a septic tank), taking household hazardous chemicals to hazardous material collection days, and limiting pesticide and fertilizer use.



The complete assessment is available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, Arizona 85007, between the hours of 8:00 a.m. and 5:00 p.m. or at the City of Scottsdale Water Resources. For more information, call the City of Scottsdale Water Resources Department at 480-312-8732 or visit the ADEQ's Source Water Assessment and Protection Unit Web site at: [www.azdeq.gov/environ/water/dw/swap.html](http://www.azdeq.gov/environ/water/dw/swap.html)

### Groundwater Recharge

Scottsdale is a leader in the valley in the protection of our groundwater through artificial groundwater recharge. The City is replenishing our ground water supply by replacing or recharging water at our Water Campus facility in north Scottsdale. In 2004, this ground water recharge added over 2 billion gallons of water to our underground aquifers. Water stored in these aquifers is an important part of Scottsdale's overall water supply.

Scottsdale is also starting to implement groundwater recharge/recovery throughout the City by injecting treated CAP water directly into the aquifer through specially designed wells. These wells will be used to recharge during periods of low water use, typically during the winter months, and will supplement the water supply during the high demand summer months.

The groundwater aquifer crosses City boundaries. Therefore, Scottsdale staff began a project to work together with the City of Phoenix to plan for future sustainability of this shared resource. This "aquifer management plan" project will lead to a joint strategy to manage withdrawals and recharge in the area north of the CAP canal.

## Reclamation

In the early nineties, the City of Scottsdale embarked upon a major water reclamation and reuse program with the construction of the Scottsdale Water Campus. Through the Water Campus, the City treats and reclaims wastewater for both golf course irrigation and groundwater recharge. During periods of low golf course demand (typically in the winter), the effluent is purified using a three step process: The first step is Micro Filtration, an advanced membrane filtration process that can remove minute particles and bacteria. The second step is Reverse Osmosis, a membrane process capable of removing even the smallest particles or contaminants. The third step is natural soil filtration, where the treated water flows through several hundred feet of soil before reaching our ground water supply. These three steps provide a safe, drought resistant and ultra pure source of water that recharges, or replenishes, our valuable ground water resources.

## Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal illness. Cryptosporidium must be ingested to cause this illness, and it may be spread through means other than drinking water. In preparation for the upcoming Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), Scottsdale has begun frequent sampling for Cryptosporidium. The City has detected Cryptosporidium in only one of the numerous source water samples taken. The City's stringent treatment process is designed to remove the microbial organism in the finished water.

## EPA Certification

New EPA surface water quality regulations require water utilities throughout the country to perform additional sampling for microorganisms that can be present in lakes and canals. Scottsdale's water quality laboratory was the first laboratory in Arizona to be certified by the EPA in 2004 for cryptosporidium. In fact, the City's laboratory was the first, public or private, in Arizona to achieve this certification and was one of only 26 nationally at the time of receiving certification. Since the City's lab opened in 1999, the City has been monitoring and treating for these organisms. To comply with this new rule, however, the EPA must certify labs before results are accepted. After a two-year process, including on site evaluation by EPA staff, Scottsdale's laboratory was certified for these analyses.

## Upcoming Drinking Water Regulations

### ARSENIC

Presently the arsenic standard is set at 50 ppb. While the City of Scottsdale's drinking water contains low levels of arsenic, it fully complies with EPA's standard for arsenic. In 2001, the EPA lowered the arsenic standard from 50 ppb to 10 ppb, with an effective date of January 2006. In preparation for the compliance date, Scottsdale has initiated the construction of a series of arsenic treatment facilities that will ensure compliance with the new Federal standard for arsenic. The City will be in full compliance with the new MCL of 10 ppb by January 2006.

There will be three "satellite" treatment facilities throughout the City. They are located near 64th Street and Cactus Road, Scottsdale Airpark, and the southwest corner of Deer Valley and Miller roads. Informational fliers were distributed to nearby residents prior to construction of these treatment facilities. Public outreach with the neighbors, home owners associations, schools and businesses has and will be ongoing throughout the projects.



The Water Operations division is responsible for the operation and maintenance of the water system. This includes well sites, pump stations and the piping delivery system.



## RADON

Radon is a naturally occurring radioactive gas that people cannot see, taste or smell. Breathing elevated levels of radon in indoor air has been linked to lung cancer. Radon is released to the air from the soil and can migrate into a building through the foundation. Radon can also be released into the air from tap water. However, it is estimated that less than two percent of radon in the air comes from drinking water.

Preparing for a pending regulation, Scottsdale's Water Resources Department staff began collecting radon samples from wells and treatment plants. This monitoring was conducted in 1999 through 2000. Sample results varied depending on the water source, ranging from non-detect to 1,110 picocuries per liter (pCi/L). The state has the option to adopt a program to address the health risks from radon in indoor air with a proposed alternate drinking water standard of 4,000 pCi/L. Additional monitoring will occur once the rule is finalized.

If you are concerned about radon in your home or office, test the air in the building. Testing is inexpensive and easy, and there are simple ways to fix a radon problem that are not too costly. For additional information, call EPA's Radon Hotline, 800-SOS-RADON.

## Future Planning

### *Central Arizona Project Water Treatment Plant (CAP)*

During the fall every year, the CAP canal experiences growth of harmless algae. These algae release a "musty" taste and odor some people may notice. It is only an aesthetic issue; the water is safe to drink and meets all regulatory standards.

The addition of granular activated carbon adsorption treatment to the existing CAP treatment plant is in the final stages of design. The process will also be using the same as that installed in the new Chaparral Treatment Plant. The benefit to this technology is improvement in the taste, odor and overall quality of CAP water. The City is currently in the design phase and construction is scheduled for completion in 2007.

### *New Chaparral Treatment Plant*

A new state of the art water treatment facility is under construction on the southeast corner of Hayden Road and McDonald Drive. The Chaparral Water Treatment Plant will treat Scottsdale's allocation of Salt River Project water from the Arizona canal. The design capacity of the facility is 30 million gallons a day.

The Chaparral Water Treatment Plant will incorporate some of the most advanced technologies in the water treatment industry. Utilizing ultrafiltration membranes and activated carbon filtration, the facility has been designed to provide high quality and aesthetically pleasing water to our residents south of Indian Bend Road. The Chaparral Water Treatment Plant will be one of the largest facilities in the country incorporating ultrafiltration. The plant is scheduled for completion in early 2006.

Another great addition at the plant will be a Xeriscape demonstration garden. With the support of the City's Water Conservation Office, the garden will be designed as a teaching garden that will present information on using Xeriscape principles to create water-conserving landscapes and beautiful examples of low-water-use plants.



The new Chaparral Water Treatment Plant is located on the southeast corner of Hayden Road and McDonald Drive.

**Where to Learn More About Your Drinking Water**

CITY OF SCOTTSDALE WATER QUALITY STAFF  
480-312-8732  
480-312-0961 TDD

CITY OF SCOTTSDALE WATER OPERATIONS  
AND CONSERVATION  
480-312-5650

CITY OF SCOTTSDALE WATER QUALITY WEB SITE  
[www.ScottsdaleAZ.gov/water/quality](http://www.ScottsdaleAZ.gov/water/quality)

UNITED STATES ENVIRONMENTAL PROTECTION  
AGENCY’S SAFE DRINKING WATER HOTLINE  
800-426-4791  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

ARIZONA DEPARTMENT OF ENVIRONMENTAL  
QUALITY  
602-771-2300  
[www.adeq.state.az.us/environ/water/index.html](http://www.adeq.state.az.us/environ/water/index.html)

MARICOPA COUNTY ENVIRONMENTAL SERVICES  
DEPARTMENT  
602-506-6666  
[www.maricopa.gov/envsvc/Wwmd.asp](http://www.maricopa.gov/envsvc/Wwmd.asp)

TAP INTO QUALITY  
[www.tapintoquality.com](http://www.tapintoquality.com)



WATER USE IT WISELY  
[www.wateruseitwisely.com](http://www.wateruseitwisely.com)



Water-related topics may be discussed at City Council meetings or other public forums and we welcome your attendance. Meeting notices are posted in the “Pride” utility bill insert and are posted on the City’s web site at [www.eservices.scottsdaleaz.gov/cc\\_planner\\_public](http://www.eservices.scottsdaleaz.gov/cc_planner_public)

For specific water quality questions call Dan at (480) 312-8748.

Este informe contiene informacion muy importante sobre su agua potable. Si desea una copia de este informe en espanol o tiene alguna pregunta sobre el, por favor llame a (480) 312-7035 or (480) 312-7673.

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